

October 25, 2011

Comments on “RIFS Work Plan, November 2010, San Jacinto River Waste Pits Superfund Site”

On behalf of the Port of Houston Authority (PHA), HDR has reviewed the aforementioned work plan and submits the following comments. The focus of this review is on the aspects of the work plan that apparently will influence the cleanup goals and the remedy selection. Comments are integrated into aspects of the work plan that relate to background conditions and the baseline human health risk assessment.

BACKGROUND SEDIMENT DATA

Page 89 – The middle paragraph goes to some length arguing for uses of background data including:

“Background threshold values are often estimated using an upper percentile, an upper prediction limit, or an upper tolerance limit. Background threshold values can be applied in point-by-point comparisons of single concentrations measured within a site with the upper bound of the background concentration range. A background threshold value can also be used to define a “not-to-exceed” value that can be used in establishing PRGs.”

Use of the upper confidence interval of background data would err on the side of underestimating the effects of the Site and should not be applied to the interpretations. Background interpretations should be selected conservatively, since other factors in the RIFS scope are not conservative:

- While multiple COCs are associated with the site, only dioxins and furans are being considered contaminants to be remediated.
- Multiple contaminants contribute to risks from fish and shellfish ingestion from the Site, but risk quantification is apparently limited by the tissue analyses of only blue crabs and hardhead catfish.
- The RIFS is focused on existing conditions rather than future conditions that are expected to offer a more diverse ecosystem, more recreational uses and greater ingestion of fishes. Future conditions are expected to pose greater risks than those based on existing conditions.

Page 90 – Cleanup Area Delineation proposes a possibility of using “hill-topping,” whereby remediation occurs:

“until the average concentration in the cleanup area reaches the remediation goal”

Such an approach should not be used because selection of a large area for possible remediation reduces the average concentration, reducing the need for remediation, possibly to no area at all. Rather, an impacted area above the background level (for similar



TOC and grain size) should be designated. Then the remediation strategy within that targeted area can be implemented to minimize, to the extent practicable, the risks posed by residual dioxins and furans.

Page 90 – Remedy Selection proposes that

“hypothesis testing to compare background and hypothetical sediment cleanup scenarios could be used in the FS to evaluate whether post-cleanup chemical concentrations would be similar to background”

Such statistical testing is irrelevant. In such testing, high variance in background data would be used to argue that little or no remediation is statistically justified. Instead, the high variance in background data should lead to selecting conservatively low background concentrations to insure that Site contaminants are remediated, in the face of such uncertainty.

Page 90 – Potential Cap Material Selection suggests that:

“Background levels such as the 95 percent upper confidence limit (95UCL) of the mean could be among the criteria for selecting capping material”

Given the high variance in background data, use of this criterion would permit capping of remediated areas with dioxin and furan contaminated materials. Under this argument, concentrations could even be greater than were removed in some areas. Rather, capping materials should be “clean,” to below the background concentrations, or at least as low as the levels of contaminants accepted for the TCRA capping material.

BASELINE HUMAN HEALTH RISK ASSESSMENT (BHHRA)

Page 102 – Section 6.3.5.3 defines the baseline risk comparisons proposed.

“The background tissue EPCs will be calculated using data representative of the Houston Ship Channel as well as locations upstream of the Site.”

Background tissue and sediment data are variously referred to having been collected from Cedar Bayou, upstream of the site and downstream of the Site, with claims that no background data will be excluded from the analyses. Selection of the background exposure scenario is significant in assessing the Site’s incremental risks over background conditions. Care should be taken to compare similar populations from areas assuredly not impacted by the Site with those near the Site. If such comparisons are not made with comparable populations, then there may not be an incremental risk shown for the Site contaminants.

Page 102 – The bottom of Section 6.3.5.3, Background Risk Comparisons argues without merit that:

“The comparison of Site risks to background risks will not necessarily be conducted for soil or sediment exposure pathways for two reasons. First, the risks associated with these pathways are not expected to be as significant as the risks associated with the fish/shellfish consumption pathway.”

Because this work plan did not support eliminating the pathway of soil and sediment exposure from the BHHRA, it must be retained in the analysis. Arguing that such pathways are not expected to be significant is not sufficient.

Page 42 - Sections 2.4.2 and 2.4.3 describe fishing and recreational activities. To insure implementation of a protective remedy, the risk assessment should assume that repetitive access will occur in spite of site fencing, signs and advisories.

Page 61 – Section 4.2.1 and Page 91 in Section 6.3, Human Health Receptors, describe four populations at risk. The discussions fail to summarize sensitive populations (e.g. elderly as well as children), who are expected to have different slope factors than the general population. Future Site access includes sensitive populations, such as children and elderly.

Page 44 – Section 2.3.5 and Page 61 in Section 4.2.2 cite numerous fish species collected from the site and its vicinity. The subsequent data collection and analyses only cite blue crabs and hardhead catfish edible tissue analyses. Consumption of other species caught in the Site vicinity should be included in the risk assessment. How will other species be included in the BHHRA?

Page 45 – Section 2.5.5, Birds, lists species that may be consumed by recreational hunters. That exposure pathway should be discussed and included in the BHHRA, to the extent applicable.


SUMMARY

In summary, the gravest concerns with the RIFS work plan interpretations are:

- how background sediment data will be edited, selected, stratified (by grain size and TOC) and interpreted to define remedial goals
- how the tissue data will be used to select background conditions, and remedial goals and areas
- whether the BHHRA adequately simulates exposure to Site contaminants
- that statistical significance (or lack of significance) may be used inappropriately to select background concentrations, remedial goals, areas for remediation and the recommended remedy

Any questions concerning these comments should be communicated to Linda Henry, Port of Houston Authority.

Sincerely,



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cc: Kerri Snyder, AICP, Project Manager